What is claimed is:

1. A method of detecting biomolecules on a microarray comprising

synthesizing said biomolecules on a microarray;

scanning said microarray with a scanning electron microscope; and

detecting said biomolecules on said microarray.

2. A method of claim 1 wherein said biomolecules are nucleotides, oligonucleotides or polynucleotides.

3. A method of claim 1 wherein said microarray is synthesized by light directed oligonucleotide synthesis.

4. A method of claim 1 wherein said method is used to detect errors in said synthesizing said biomolecules.

5. A method of claim 1 wherein said method is used to detect misalignment of said plurality of biomolecules on said microarray.

6. A method of claim 5 wherein said misalignment is detected with a resolution of less than about 5 micron.

7. A method of claim 5 wherein said misalignment is detected with a resolution of less than about 1 micron.

8. A method of claim 1 wherein said microarray is coated with a layer of metals.

9. A method analyzing interactions between a biomolecule target and a biomolecule probe on a microarray, comprising

exposing said biomolecule probe on said microarray to a plurality of biomolecule targets under a hybridization condition;

scanning said microarray with a scanning electron microscope; and

detecting said biomolecule targets binding to said biomolecule probe on said microarray.

10. A method of claim 9 wherein said microarray is synthesized by light directed syntheses.

11. A method of claim 9 wherein said biomolecules are nucleotides, oligonucleotides or polynucleotides.

12. A method of claim 9 wherein said biomolecule target is labeled with a heavy atom.

13. A method of claim 12 wherein said heavy atom is a colloidal gold.

14. A method of claim 13 wherein said heavy atom is detected using a backscattered electron detector.

15. A method of testing conditions in a microarray manufacturing process comprising

synthesizing biomolecules on a first microarray using a microarray manufacturing process with a first condition;

inspecting a pattern on said first microarray with a scanning electron microscope;

synthesizing biomolecules on a second microarray using a microarray manufacturing process with a second condition;

inspecting a pattern on said second microarray with a scanning electron microscope;

comparing said patterns on said first microarray and said second microarrays; and

selecting a condition for said microarray manufacturing process.

16. A method of claim 15 wherein said biomolecules are nucleotides, oligonucleotides or polynucleotides.

17. A method of claim 15 wherein said microarray is synthesized by light directed oligonucleotide synthesis.